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Noch sind zwei Arten von Landschnecken zu nennen, wesentlich alpin, welche ich zwar nicht bei Mittenwald, aber nahe dabei bei Partenkirchen, gefunden: *Helix ruderata*, an den zerfallenen Mauern einer alten Steinhütte, also wörtlich in ruderibus, hoch über dem Eibsen, am Fussweg nach Ehrwald, nahe der obern Gränze des Waldes, und *Helix ichthyomma* (foetens auct.) in den Spalten der Schieferfelsen am Eingang der Partnachklamm an einer sehr feuchten und schattigen Stelle. Held hat die letztere schon von einem nahen Fundorte, den Felsblöcken am Fusse der Zugspitze über dem Eibsen angegeben. Helix cingulata, liminifera, Clausilia orthostoma, Pupa dolium, Vertigo sexdentata, Limnaea mucronata (wohl lagotis) und Hydrobia viridis werden ferner von Held aus Partenkirchen angegeben; unter der erstgenannten ist ohne Zweifel H. Preslii zu verstehen, die ich zwar bei Mittenwald vergebens gesucht, aber doch früher mit Herrn Dessauer am südlichen Ufer des Kochelsees gefunden. Uebrigens möchte ich aus diesen und den früheren Erfahrungen bei Reichenhall den Schluss ziehen, dass man nicht gerade hoch zu steigen und viel zu klettern braucht, um diese deutschen Campylaeen zu finden, sie aber doch verhältnissmässig nur an einzelnen Stellen, besonders feuchten Thalschluchten vorkommen.

Species in Buccinum.

By

Wm. H. Dall.

(From a letter to the editor)

All species of *Buccinum* have a large and a dwarf race; generally the *male* is also always a *dwarf* in *both* the normal and the small races; only in the latter the female does not exceed him in size.

All species of Buccinum have a carinated and an un-

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carinated race, also a longitudinally ribbed race and one with obsolete or nearly obsolete longitudinal ribs. The size and form of the embryonic tip differs (according to the nutrition of the embryo in the ovicapsule) in different specimens of the same species. In one specimen it may be twice as large as in the next specimen and varies in the relative dimensions of its cone. The operculum is in this genus extremely variable and often absent entirely. Of a peck of *B. cyaneum* var. *Mörchianum* (wich is the dwarf race of *cyaneum* with developed carinae and obsolete longitudinal ribs) five percent had no operculum and in many of these even the opercular gland was absent. In the larger species it is somewhat more constant, but the situation of the nucleus, in a five gallon keg of *B. hydrophanum* Hancock was from quite central to nearly on one edge, the form from olive shaped to quadrangular and frequently nearly circular. Of this keg of 200 or 300 specimens there were only seven males; all dwarfs.

There is also another character which varies with the sex, that is, the roundness or flatness of the top of the whorls and by consequence the slope or turreted character of the spire. The large eggmass requires a greater capacity than the (also disproportionately large) penis of the male, consequently the female shells are always more rounded than the males even when of the same size and, if the reflected lip be formed at the gravid period, it will be wider and more broadly reflected behind, than in a male or in a female who has discharged her eggs before forming the reflected lip.

Of other characters the epidermis may vary also with other features from velvetty and ciliated, to glossy and smooth in the same species. It will usually in quite perfect specimens of the carinated races be found to be fringed or prolonged on the edge of the carinae. *B. ciliatum* Fabr. offers excellent examples of this.

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The most constant feature in *Buccinum* is the *spiral sculpture* by which I mean the minute sculpture exclusive of the large raised spiral ribs or carinae, which as I have said are extremely variable. This was also the conclusion of Stimpson after much study.

There are occasional hybrids and in species like *B. glaciale* with the coarser kind of spiral sculpture, it is occasionally stronger or fainter in some individuals than in others, but when well developed and perfect I have never had any trouble in recognizing the species by it. It will be seen that from the dead, beachworn, eroded material usually found in collections it will be by no means easy to determine the species; nor would it be much better with a bird which had lost its head, feet and part of its tail, and had been used as a scrubbing-brush for some weeks.

It may be thought that the idea I have in my mind of what constitutes a species in the genus *Buccinum* is very wide and not sufficient to serve as a guide for others. This may be true; but it seems to me much more satisfactory to be able to group around a definable parent-form, in regularly assigned places, the varietal offshoots from that parent-form and thus to recognize in the nomenclature not merely the relations between parent-form and varieties (as involved in the expression of „connection") but also the way by which the varietal characters developed, the reason why particular ones were preserved and the uniformity throughout the genus of tendencies in certain recognizable varietation-lines. Another generalization may be permitted. When the tendency in an individual is to *strong sculpture*, generally not only the carinations but the longitudine ribs will be strong, but when these last are not so, there is generally a *node* or *lump* on the carinae where the intersections would have otherwise occurred.

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Buccinum angulosum Gray is a very good instance to illustrate the above hypothesis by.

The normal form is rounded, with a sharply cut uniform body-sculpture and very faint subsutural riblets mostly in the smaller whorls. The variety with stronger longitudine ribs is rare and they are not, at most, remarkably prominent; but in the carinated variety they become very strong, through they may be shown either as ribs from suture to carina ending in nodes, or they may appear solely as nodes which gives a form superficially most remarkable and one would suppose it distinct until the connecting series is studied.

Diagnosen neuer Arten.

Von

W. Kobelt.

Pomatias Hueti m.

Testa perforata, elongato-conica, solidula, quoad genus sat magna, dense regulariterque arcuatim costulato-striata, grisea, fusco profuse tincta et irregulariter bifasciata. Anfractus 9 convexiusculi, sutura distincta subcrenulata discreti, regulariter crescentes, ultimus basi obscure carinatus, aperturam versus distincte malleatus, costulis minus distinctis. Apertura ovato-acuminata, labro continuo, expanso, subreflexo, haud continuo.

Alt. 15, diam. anfr. ult. 7, apert. cum perist. 4 mm.

Pomatias obscurum Mortillet Descr. Coq. nouvelles d'Arménie p. 6.

Hab. Constantinopel (contre les troncs des arbres).

Die Angabe Mortillets, dass Huet bei Constantinopel Pomat. obscurum gesammelt habe, ist seither übersehen worden. Die beiden Exemplare der Rossmässler'schen Samm-